

JOB COMPLETION REPORT
INVESTIGATIONS PROJECTS

State of Montana

Project No. F-7-R Work Plan No. IV Job No. IV-B

Title of Job: Developing Measures to Determine Kokanee Abundance in Flathead Lake.

Objectives:

To determine the relative abundance of kokanee in Flathead Lake that yearly fluctuations in abundance may be followed.

Techniques Used:

Creel census forms were distributed to boat house operators on Flathead Lake. Creel census cards were given to individuals owning large boats that took out fishing parties. The number of kokanee caught during seine hauls on the spawn taking operations were recorded. Gillnets were used to some extent in various parts of the lake. A trap was installed in the Whitefish River for spawn taking and the number of kokanee caught was recorded.

Findings:

Creel census was taken by wardens, guides and outfitters, and by fishermen who kept logs. The following fish were caught in Flathead Lake: rainbow trout, cutthroat trout, dolly varden trout, mackinaw trout, kokanee, mountain whitefish, yellow perch and bullhead. The catch per hour was 2.2 fish. Kokanee made up 96.8 percent of all fish caught and the catch per hour for kokanee was 2.1 fish, however, this figure is not entirely accurate and may be low as some fishermen are known to fish selectively for other species of fish with not much chance of catching kokanee.

A record was made of fish caught during the seining operations on Flathead Lake for spawn taking purposes by the Somers Hatchery personnel. The seine used was 300 feet by 8 feet with a one inch bar measure. The average number of kokanee per seine haul was 389 fish at Rollins Bay and 1,154 at Somers Hatchery Bay (Table 1).

Gill nets were not successful in obtaining kokanee. The Biological Station at Yellow Bay has been using gill nets for five years and have not as yet caught a kokanee.

A trap was installed in the Whitefish River approximately three miles from the mouth of the river. Records were kept on fish entering the trap from November 19 to December 9, 1951. A total of 3,924 kokanee were trapped in 21 days of operation or 187 fish caught per day.

Analysis and Recommendations:

Three methods were used to determine kokanee abundance in Flathead Lake. Creel census gave a figure of 2.2 fish caught per hour with the percentage of 96.8 being kokanee. The trap in the Whitefish River caught 187 kokanee per day. Seining operations in two bays gave different figures of catch per seine haul. This method may not be reliable in obtaining abundance

as conditions may vary during the course of the season. Figures were used of seine hauls that were made on days when the lake was not rough. Gill nets did not prove to be successful in capturing kokanee. It is recommended that this study be continued and information gathered as was done last year. A count of boats fishing on the lake should be taken to determine the amount of fishing pressure on the lake. Gill nets might be tried in the thermocline in an attempt to catch kokanee.

Table 1. Number of kokanee captured during seining operations at Rollins Bay and Somers Hatchery Bay.

Date	Location	Total Number of Fish	Number of Seine hauls
Nov. 19	Rollins	1,377	3
Nov. 20	Rollins	818	3
Nov. 23	Rollins	3,600	7
Nov. 26	Rollins	1,290	4
Dec. 3	Rollins	686	3
	Total	7,771	20
Nov. 21	Somers	5,900	4
Nov. 24	Somers	4,110	4
Nov. 27	Somers	372	1
	Total	10,382	9

Summary:

The catch per hour of kokanee was found to be 2.1 fish as determined by creel census. Fish caught per seine haul was 389 fish at Rollins Bay and 1,154 fish at Somers Hatchery Bay. Kokanee caught per day in the Whitefish River trap was 187 fish. Gill netting was not successful.

Data and Reports:

The original data and related reports are with the project leader at Somers, Montana and with the Fish and Game Department in Helena, Montana.

Prepared by Frank A. Stefanich

Approved by 

Date June 2, 1952